

GSA		PROJECT COST SUMMARY		Area (GSF) =	1
		PROJECT TITLE	John A Volpe National Transportation Systems Center	PROJECT TYPE:	
		LOCATION:		New Construction	
		CITY, STATE	Cambridge, MA		
				NUMBER OF PHASES:	Single Phased
				PROGRAM AREA:	Federal Building
ESTIMATE PREPARED BY:		RESPONSIBLE PARTY	Other		
ESTIMATE REVIEWED BY:		GSA Cost Mgt		CURRENT SUBMITTAL:	Other
QUALITY ASSURANCE REVIEW:					
WBS CODE	UNIFORMAT SYSTEM ELEMENTS	SUBTOTAL DIRECT COST	ECC COST	DIRECT COST / GSF	
A10	Foundations				
A20	Basement Construction				
B10	Superstructure				
B20	Exterior Closure				
B30	Roofing				
C10	Interior Construction				
C20	Stairs				
C30	Interior Finishes				
D10	Conveyance Systems				
D20	Plumbing				
D30	HVAC				
D40	Fire Protection				
D50	Electrical				
E10	Equipment				
E20	Furnishings	b(5)	b(5)	b(5)	
F10	Special Construction				
F20	Selective Building Demolition				
G10	Sitework - Building Related				
G20	Sitework - Non-Building Related				
A	Sub Total	b(5)	b(5)	b(5)	
B					
C	Subtotal	A + B	b(5)	b(5)	
D	General Conditions/Requirements	C			
E		C			
F	Subtotal	C + D + E	b(5)	b(5)	
G	Profit Bonds and Insurance				
H	Current Estimated Construction Award Cost	F + G	b(5)	b(5)	
I	Escalation to Construction Award	H			
Estimated Cost of Construction at Award					
J	ECCA	G+H	b(5)	b(5)	
K + L	General Contractor Construction Contingency Not Included Carried in Pricing form	J			
M	Subtotal	J + K + L	b(5)	b(5)	
N	Optional Allowance for Art-In-Architecture	M	\$1,190,000	\$1,190,000	
O	Optional Allowance for Relocation Cost	M	\$1,700,000	\$1,700,000	
Estimated Construction Cost					
P	ECC	M + N + O	b(5)	b(5)	
S	EDRC (Estimated Design & Review Cost)	P			
W	EMIC (Estimated Management & Inspection Cost)	P			
A1					
A2	ETPC Line 2A	O + S + W + A1	b(5)	b(5)	
Escalation Rate Used:					
Current Date:		Basis Date of Estimate:		Const. Mid-Point Date:	

GSA	ESTIMATED TOTAL PROJECT COST					
PROJECT TITLE:		John A Volpe National Transportation Systems Cente				
PROJECT LOCATION:		Cambridge, MA				
Item Description		Basis	Quantity	UOM		Totals
ECC ( Estimated Construction Cost )						
A	Sub-Total UNIFORMAT System Elements Sum All Elements					b(5)
B		A		%	+	
C	A + B Sub - Total					b(5)
D	General Conditions/Requirements			%	+	
E		C		%	+	
F	C + D + E Sub - Total					b(5)
G	Profit Bonds and Insurance			%	+	
H	F + G Sub - Total					b(5)
I	Escalation:Current Date To Escal Date - See Summary	H			+	
	Total Escalation					
J	ECCA (Estimated Construction Cost At Award. Assumes Escalation to Construction Mid-Point) H + I ECCA					b(5)
K	Reservations [Note: Reservations are not used unless separate procurement of GFE materials]					
		J		%		
		J		%		
		J		%		
		J		%	+	
	Reservation Subtotal J Sub-Total					
L	General Contractor Construction Contingency Not Included Carried in Pricing form	J		%	+	
M	ECC ' - (Excluding Art-In-Architecture Allowance) Subtotal J + K + L Sub-Total					b(5)
N	Optional Allowance for Art-In-Architecture	M	\$1,190,000	%	Y	\$1,190,000
O	Optional Allowance for Relocation Cost	M	\$1,700,000	%	Y	\$1,700,000
P	ECC (Estimated Construction Cost) M + N + O ECC					b(5)
Q	A-E Services - Design Phase	P				
R	CM Services - Design Phase	P				
S	Commissioning Services Costs – Design Phase	P				
T	EDRC (Estimated Design & Review Cost) EDRC					
U	A-E Services - Construction Phase	P				
V	CM Services - Construction Phase	P				
W	Commissioning Services Costs – Construction Phase	P				
X	EMIC (Estimated Management & Inspection Cost) EMIC					
Y				\$		
Z				\$	+	
A1				\$	+	
A2	ESC (Estimated Site & Other Cost) ESC					
A3	ETPC (Estimated Total Project Cost)		(P+T+X+A2)		Date:	ETPC
						b(5)

[illegible]



B30	Roofing		To add additional row(s) select entire row and press CTRL+n				
	Design Criteria		"U" Factor	Skylight SF	"U" Factor Skylight	Conference Area	
	General Description:						
WI Code	UN FORMAT Code	Item Description	Quantity	Unit Measurement	Unit Cost	Totals (W/O Markup)	Totals (ECCA)
Do Not Add Rows Below This Line							
Total B30							

C10	Interior Construction		To add additional row(s) select entire row and press CTRL+n				
	Design Criteria	Partition Density	Open Office SF	Closed Office SF	Conference Area		
	General Description:						
WI Code	UN FORMAT Code	Item Description	Quantity	Unit Measurement	Unit Cost	Totals (W/O Markup)	Totals (ECCA)
Do Not Add Rows Below This Line							
Total C10							

C20	<b>Stairs</b>		To add additional row(s) select entire row and press CTRL+n					
<b>Design Criteria</b>			No. of Floors	Types of Risers	No. of Stairwells	No. of Flights		
General Description:								
WI Code	UN FORMAT Code	Item Description	Quantity	Unit Measurement	Unit Cost	Totals (W/O Markup)	Totals (ECCA)	
Do Not Add Rows Below This Line								
Total C20								
C30	<b>Interior Finishes</b>		To add additional row(s) select entire row and press CTRL+n					
<b>Design Criteria</b>			Lobby Area	Court Spec Area	ADP Area	Lab/Clinic Area		
General Description:								
WI Code	UN FORMAT Code	Item Description	Quantity	Unit Measurement	Unit Cost	Totals (W/O Markup)	Totals (ECCA)	
Do Not Add Rows Below This Line								
Total C30								

D10	Conveyance Systems		To add additional row(s) select entire row and press CTRL+n					
Design Criteria			Building Height	No. Stops	Escalator Use	No. Special Elev.		
General Description:								
WI Code	UN FORMAT Code	Item Description	Quantity	Unit Measurement	Unit Cost	Totals (W/O Markup)	Totals (ECCA)	
Do Not Add Rows Below This Line							Total D10	
D20	Plumbing		To add additional row(s) select entire row and press CTRL+n					
Design Criteria			No. Floors	No. Occupants	No. Visitors			
General Description:								
WI Code	UN FORMAT Code	Item Description	Quantity	Unit Measurement	Unit Cost	Totals (W/O Markup)	Totals (ECCA)	
Do Not Add Rows Below This Line							Total D20	





D50	Electrical	To add additional row(s) select entire row and press CTRL+n					
Design Criteria		Primary Voltage	Lighting Watts/SF	Receptacle Watts/SF	Emergency KW		
General Description:							
WI Code	UN FORMAT Code	Item Description	Quantity	Unit Measurement	Unit Cost	Totals (W/O Markup)	Totals (ECCA)
Do Not Add Rows Below This Line							
Total D50							
E10	Equipment	To add additional row(s) select entire row and press CTRL+n					
Design Criteria		No. Furnished Workstations	Hoist Capacity				
General Description:							
WI Code	UN FORMAT Code	Item Description	Quantity	Unit Measurement	Unit Cost	Totals (W/O Markup)	Totals (ECCA)
Do Not Add Rows Below This Line							
Total E10							

[illegible]



G20		Sitework - Non-Building Related		To add additional row(s) select entire row and press CTRL+n			
Design Criteria			Site Area	Highway Area	Available Utilities	New Utilities	
General Description:							
WI Code	UN FORMAT Code	Item Description	Quantity	Unit Measurement	Unit Cost	Totals (W/O Markup)	Totals (ECCA)
5							
Do Not Add Rows Below This Line							
Total G20							

USER INSTRUCTIONS: User **MUST** input WI Code (explained by value below). User **MUST** input the Item Description, Quantity, and Unit Cost in order for the Totals to be calculated.

Inputting the WI Code allows the tool to automatically sum the Direct Costs, ECCA, and ECC by Work Item Code. If user needs to add additional rows, insert new row **BELOW** the first empty row in the section and **ABOVE** the last row in the section. For example, insert the row between 8 and 19, but not outside those two row numbers. This ensures the formula stays correct. **IF YOU ADD A ROW BE AWARE THAT THE ROW ADDED WILL NOT HAVE THE FORMULA IN IT. MAKE SURE TO PUT YOUR CURSOR ON THE CORNER OF THE CELL ABOVE THE ADDED ROW UNTIL THE BLACK CROSS APPEARS, THEN CLICK AND DRAG**

WI Code #	Work Item Code Explanations
1	<b>Entry Lobby Upgrades/Restoration (Monumental):</b> The entry lobby area is defined as all public areas connecting primary entry into the building to the front door of areas assigned to tenants and the primary vertical circulation system. Include costs for all refinishing of existing stonework, terrazzo, and other wall or ceiling finishes.
2	<b>Secondary Public Lobbies &amp; Circulation (non-monumental):</b> Secondary public lobbies and circulation is defined as the area between primary non-monumental vertical circulation systems and the assigned tenant areas.
3	<b>Restroom Upgrades:</b> Includes new fixtures, modifications to address ADA requirements, upgrades to floor, wall, and ceiling finishes. Provide number restrooms and the number of plumbing fixture units/restrooms being upgraded.
4	<b>Demolition/Core Shell Prep:</b> This cost element is to remove existing interior improvements and prepare areas to receive interior tenant-fit-out type space alternations. Pursuant to the PBS Pricing Policy, this cost is charged against the shell budget for major R&A projects unless the project was specifically requested by the tenant post-initial occupancy. It includes demolition and disposal of existing interior walls, ceilings and floor finishes.
5	<b>Interior Build-Out/Completion - Building Core/Shell:</b> This cost element is to include the build-out cost of all interior spaces shared by multiple tenants. Examples of these are shared Conference Rooms, Cafeteria, Auditoriums, etc.
A1, B1, C1,... etc	<b>Tenant Fit-out:</b> Inputted by the Agency Letter cited in the TI Summary Report (No user action req)
A2, B2, C2,... etc	<b>Security/Blast:</b> Inputted by the Agency Letter cited in the TI Security Report (No user action req)
8	<b>Special Requirements</b> [List large items separately]- Agency or site requirements such as Tunnels, antenna
9	<b>New Construction Additions</b> - such as building in fills or small additions. This item is generally benchmarked using the CT, FB or Border cost benchmark tools, and costs loaded herein when the project is generally a R&A project.
10	<b>Building Structure</b> - Includes all cost (Architectural, Structural, Mechanical, and Electrical) associated w/ bringing Bldg up to current-day seismic, hurricane or other structural standards, apart from the blast, glass fragmentation and progressive collapse noted above.
11	<b>Building Exterior</b> - Includes all cost (Architectural, Structural, Mechanical, and Electrical) necessary for the execution of work associated w/ maintenance, repair and/or replacement or exterior closure system elements, including stonework, masonry, glazing, curtainwalls, storefronts, ext. doors, etc.
12	<b>Roofing</b> - Includes work associated repair, maintenance and/or replacement of roof system, and all ancillary subcomponents. Other systems costs that are incurred because of a roofing work item is executed will be included in the cost of the roofing work item. An example could be the removal and resetting of roof drains.
13	<b>Conveying System</b> - Includes the cost for repair and replacement of all public conveying system. Includes all architectural, mechanical and electrical costs incurred because of the execution of conveying system work item.
14	<b>Plumbing</b> - Includes all costs associated with the Domestic Water, Sanitary Waste and all roof drainage not associated with a roof replacement work item. Also includes plumbing fixtures not associated w/ restroom renovation, lobby renovation, or circulation space renovation. Also includes all other system cost associated with plumbing retrofit costs.
15	<b>HVAC</b> - Includes major items such as chiller, cooling tower, and boiler repair, replacement, or new installation. Includes air distribution system repair and/or replacement, including main AHU's, ductwork trunk and secondary lines to branch lines feeding supply and return diffusers.
16	<b>Electrical</b> - Includes major items such as switch gear, transformers, meters, cable, distribution panels, bus duct, panelboards, conduit, fittings, etc., to support all electrical systems. The replacement of the lighting system will be included in either the "Core-Shell" work item, or the tenant fit-out work item, whichever is appropriate in keeping with the limits of the
17	<b>Life Safety</b> - Includes major components to the central fire alarm system, fire protection system, egress components, etc. Note: Fire alarm wiring from building core to tenant space and then within tenant space; pull stations; strobes; annunciators; and, exit signage within the demised premises shall be considered a part of the TI costs.
18	<b>Hazardous Abatement</b>
19	<b>Grounds and Approaches</b>

**\*\*FOR ADDITIONAL INFORMATION ABOUT WI CODES SEE "INSTRUCTIONS - MUST READ!!!"\*\***

# GSA OFFICE OF DESIGN AND CONSTRUCTION

## UNIFORMAT II WBS COST ELEMENT ORGANIZATION

Unf L1	Unf L2	Unf L3	Unf L4	E UOM	M UOM	Quantity Definition	WBS Ref No
<b>A SUBSTRUCTURE</b>				SF	M2	Footprint area at grade	
This system includes all work below the lowest floor construction (usually slab-on-grade) and the enclosing horizontal and vertical elements required to form a basement, together with the necessary mass excavation and backfill							
		<b>A10 FOUNDATIONS</b>					01
			Foundations includes the following Standard Foundations: wall and column foundations; foundation walls up to level of top of slab on grade; pile caps; foundation excavation, backfill, and compaction; footings and bases; perimeter insulation; perimeter drainage; anchor plates; and dewatering. Special Foundations include pile foundations, caissons, underpinning, dewatering, raft foundations, and pressure injected grouting. Slab on grade includes standard slab on grade, structural slab on grade, inclined slab on grade, trenches, pits and bases, and foundation drainage.				
		<b>A1010 STANDARD FOUNDATIONS</b>		SF	M2	Footprint area at grade	011
			Continuous footings, spread footings, grade beams, foundation walls, pile caps, and column piers				
		<b>A1020 SPECIAL FOUNDATIONS</b>		SF	M2	Footprint area at grade	012
			All work associated with special foundations including piles, caissons, and any other special foundation situation				
		<b>A1030 SLAB ON GRADE</b>		SF	M2	Footprint area at grade	021
			A slab poured on earth, whether on undisturbed or fill soil				
		<b>A20 BASEMENT CONSTRUCTION</b>		CY	M3	Volume of excavation	
			Work Includes basement excavation, and basement walls				
		<b>A2010 BASEMENT EXCAVATION</b>		CY	M3	Area of basement plan measured to outside of enclosing wall and average depth of finished grade to underside of slab on grade	022
			Excavation work associated with constructing a basement				
		<b>A2020 BASEMENT WALLS</b>		SF	M2	Area of wall	023
			Assembly includes basement perimeter walls that are below grade and below the ground floor level of the building; this also includes elevator pits and other pits				
<b>B SHELL</b>				SF	M2	Sum area of supported floors and roof structure	
This system includes all structural slabs, and decks and supports within basements and above grade. Note that the structural work will include both horizontal items (slabs, decks, etc.) and vertical structural components (columns and interior structural walls). Exterior load bearing walls are not included in this system but in System B2010, Exterior Walls.							
		<b>B10 SUPERSTRUCTURE</b>		SF	M2	Sum area of supported floors and roof structure	03
			Work includes floor construction and roof construction				
		<b>B1010 FLOOR CONSTRUCTION</b>		SF	M2	Area of supported floors	031
			This construction can be wood, concrete, CMU, steel frame, etc.				
		<b>B1020 ROOF CONSTRUCTION</b>		SF	M2	Area of supported roof	032
			This construction is similar to floor construction except that it applies to the framework supporting the roof and roof decks. (See also System B30 Roofing.)				
		<b>B20 EXTERIOR ENCLOSURE</b>		SF	M2	Area of exterior walls	04
			This system consists of the exterior facing of the facility, which includes all vertical and horizontal exterior closure such as exterior walls, exterior windows, and exterior doors. This system excludes roofing (See System B30, Roof). Load bearing exterior walls will be included here, and not in System B10, Superstructure. Structural frame elements at exterior such as columns, beams, spandrels, etc., would be included in Superstructure with only the applied exterior finishes (i.e., paint, stucco, etc.) being included here. Finishes to the inside face of walls which are not an integral part of the wall construction will be included in System C30, Interior Finishes.				
		<b>B2010 EXTERIOR WALLS</b>		SF	M2	Area of exterior walls	0411
			All materials associated with the following construction: exterior load-bearing walls, insulation and vapor barrier, parapets, exterior louvers and screens, sun control devices (exterior), balcony walls and handrails, exterior soffits, screen walls, and exterior coatings.				
		<b>B2020 EXTERIOR WINDOWS</b>		SF	M2	Area of windows	042
			All windows located in exterior walls or exterior skin				

				<b>B2030</b>	<b>EXTERIOR DOORS</b>	EA	EA	Number of doors	0423
					All doors located in exterior walls or exterior skin				
			<b>B30</b>	<b>ROOFING</b>		SF	M2	Gross area of roof	05
					This System includes all waterproof roof coverings and insulation, expansion joints, together with skylights, hatches, ventilators, and all required trim. In addition to roof coverings, the system includes all waterproof membranes and traffic toppings over below grade enclosed areas, balconies, and the like				
				<b>B3010</b>	<b>ROOF COVERINGS</b>	SF	M2	Gross area of roof	0501
					This System includes all waterproof roof coverings and insulation, expansion joints, together with skylights, hatches, ventilators, and all required trim. In addition to roof coverings, the system includes all waterproof membranes and traffic toppings over below grade enclosed areas, balconies, and the like				
			<b>C</b>	<b>INTERIORS</b>		SF	M2	Gross floor area	06
					Construction which takes place inside the exterior wall or exterior skin. The system does not include interior structural walls, which are included in System B10, Superstructure				
				<b>C10</b>	<b>INTERIOR CONSTRUCTION</b>	SF	M2	Gross floor area	06
					This assembly includes partitions, interior doors, and fittings				
				<b>C1010</b>	<b>PARTITIONS</b>	SF	M2	Area of partitions	061
					Includes all interior partitions, excluding interior structural walls located in System B10, Superstructure				
				<b>C1020</b>	<b>INTERIOR DOORS</b>	LEF	LEF	Number of leaves	061601
					Includes all interior doors				
				<b>C1030</b>	<b>FITTINGS</b>	SF	M2	Gross floor area	06
					Includes most commonly used specialty items				
				<b>C20</b>	<b>STAIRS</b>	FLT	FLT	Number of flights	033
					Work includes interior stair construction				
				<b>C2010</b>	<b>STAIR CONSTRUCTION</b>	FLT	FLT	Number of flights	033
					All work items associated with interior and exterior stairs. A flight of stairs is considered to be all the treads and risers with landings required to travel from one floor to the next				
				<b>C2020</b>	<b>STAIR FINISHES</b>	SF	M2	Area of finished landings, treads, risers	0616, 0622, 0623
					Includes finishes to treads, risers, landings, and soffits, and finishes to handrails and balustrades				
				<b>C30</b>	<b>INTERIOR FINISHES</b>	SF	M2	Area of finishing	6
					Includes wall finishes, floor finishes, and ceiling finishes				
				<b>C3010</b>	<b>WALL FINISHES</b>	SF	M2	Area of finished walls	0621
					Finishes which are applied to interior wall surfaces				
				<b>C3020</b>	<b>FLOOR FINISHES</b>	SF	M2	Area of finished floors	0622
					All flooring and floor finishes applied to interior floors				
				<b>C3030</b>	<b>CEILING FINISHES</b>	SF	M2	Area of ceilings	0623
					All ceilings and ceiling finishes applied to interiors				
			<b>D</b>	<b>SERVICES</b>		EA	EA		
					Includes all methods of Conveying, Plumbing, HVAC, Fire Protection, and Electrical for the Building. Any Site-Related Plumbing, HVAC or Electrical is placed in System G, Sitework				
				<b>D10</b>	<b>CONVEYING</b>	STY	STY	Number of stories	07
					This system includes elevators, escalators, pneumatic tube systems, conveyors, chutes, etc. Foundations for these systems are included in System A, Substructure				
				<b>D1010</b>	<b>ELEVATORS AND LIFTS</b>	STP	STP	Number of stops	0701
					Includes passenger elevators and freight elevators				
				<b>D1020</b>	<b>ESCALATORS AND MOVING WALKS</b>	LF	M	Length of stairs or walks	0702
					The length of stair or walk is calculated by the length of moving stair or walk plus lift (vertical floor to floor)				
				<b>D1090</b>	<b>OTHER CONVEYING SYSTEMS</b>	EA	EA		
					Other conveying systems includes dumbwaiters, pneumatic tube systems, overhead cranes, conveyor belts, chutes, and lifts				
				<b>D20</b>	<b>PLUMBING</b>	EA	EA	Number of fixtures	081
					The plumbing system's primary function is the transfer of liquids and gases. This system includes all water supply and waste items within the building				
				<b>D2010</b>	<b>PLUMBING FIXTURES</b>	EA	EA	Number of fixtures	0814

			All terminal devices on the domestic plumbing system which have water supplied to the fixture Hot water heaters, hose bibbs, and special equipment are not counted as a fixture				
		D2020	DOMESTIC WATER DISTRIBUTION	EA	EA	Number of fixtures	0811
			This system provides for human health and comfort The water supply needed is determined by the number of fixtures attached Hot water heaters, hose bibbs, and special equipment are not counted as a fixture				
		D2030	SANITARY WASTE	EA	EA	Number of fixtures	0812
			This system provides for human health and comfort Fixtures include all terminal devices which have a water supply (except water supply equipment and specialties), and also devices that transfer fluids into the sanitary waste system that do not have a water supply Floor drains (not drain hubs) are included as a sanitary waste fixture				
		D2040	RAIN WATER DRAINAGE	SF	M2	Area of roof	0813
			Roof drainage system Gutter and downspouts are not included in this subsystem				
		D2090	OTHER PLUMBING SYSTEMS	EA	EA	Number of special fixtures, etc	0841
			This subsystem includes all special plumbing systems which are not included in D2010 through D2040				
	D30	HVAC		MBH	KW	Total MBH capacity	082
			This system includes all equipment, distribution systems, controls, and energy supply systems required by the heating, ventilating, and air conditioning system				
		D3010	ENERGY SUPPLY	MBH	KW	Total power of heating system	0821
			The energy input to the facility (other than electrical) in the form of fuels or hot and cold water distributed from a central base facility Energy received from wind or solar power is not included in this subsystem				
		D3020	HEAT GENERATING SYSTEMS	MBH	KW	Total power of heating system	0822
			This subsystem includes steam, hot water, furnace, and unit heater systems Fuels include coal, oil, gas and electric unless otherwise noted				
		D3030	COOLING GENERATING SYSTEMS	TON	KW	Total power of cooling capacity	0823
			Cooling generating equipment of the absorption, centrifugal, reciprocating, and direct expansion types				
		D3040	DISTRIBUTION SYSTEMS	MBH	KW	Power	0824
			This includes systems that distribute heated and cooled air, ventilating and exhaust air, hot and chilled water, steam, and glycol heating				
		D3050	TERMINAL & PACKAGE UNITS	MBH	KW	Power	0825
			This category includes self-contained heating and cooling units				
		D3060	CONTROLS & INSTRUMENTATION	MBH	KW	Power	0826
			Includes devices such as thermostats, timers, sensors, control valves, etc , necessary to operate the system as designed				
		D3070	SYSTEMS TESTING & BALANCING	MBH	KW	Power	0827
			This includes operation of all systems to determine capacity and adjustment of water flow in chilled water and hot water systems, air flow of air handling units, supply and exhaust fans, and supply and return, and exhaust registers				
		D3090	OTHER HVAC SYSTEMS AND EQUIPMENT	EA	EA	Number of special mechanical systems	084
			This subsystem includes special mechanical systems that are not normally included as part of standard HVAC systems				
	D40	FIRE PROTECTION		SF	M2	Gross floor area	083
			This system includes standard and special fire protection systems, and fire alarm systems				
		D4010	FIRE ALARM & DETECTION SYSTEMS	SF	M2	Gross floor area	093111
			Assemblies include wire, conduit, conduit support or fastening systems, fire alarm devices, fire detection devices, safety switches, mass notification, all electrical connections and other associated items				
		D4020	FIRE SUPPRESSION WATER SUPPLY AND EQUIPMENT	LF	M	Length of system	0831
			Requirements for water supply design criteria and any items located upstream of the suppression systems such as PIV's, backflow preventers, strainers, etc The water supply distribution system begins 5'-0" outside the building				
		D4030	STANDPIPE SYSTEMS	EA	EA	Number of sprinkler heads	0833
			This subsystem includes the complete standpipe system				
		D4040	SPRINKLERS	EA	EA	Number of sprinkler heads	0832
			This subsystem includes the water supply equipment and related piping from the equipment to the sprinkler head				
		D4050	FIRE PROTECTION SPECIALTIES	EA	EA	Number of extinguishers	0834
			This subsystem includes fire extinguishing devices				



			<b>D4090 OTHER FIRE PROTECTION SYSTEMS</b>	EA	EA	Each system	0842
			This subsystem includes other fire protection systems				
		<b>D50 ELECTRICAL</b>		AMP	AMP	Gross floor area	09
			This system is defined by the electric current used or regarded as a source of power				
		<b>D5010 ELECTRICAL SERVICE &amp; DISTRIBUTION</b>		AMP	AMP	Gross floor area	091
			This subsystem provides for all electrical devices that are required to deliver the main source of power to the facility and to distribute this power to subpanels				
		<b>D5020 LIGHTING &amp; BRANCH WIRING</b>		SF	M2	Floor area	092
			Lighting systems including light fixtures and devices, i e , switches, receptacles, and equipment connections				
		<b>D5030 COMMUNICATIONS &amp; SECURITY</b>		SF	M2	Floor area	093
			This subsystem includes provisions for communication devices and alarm protection systems				
		<b>D5090 OTHER ELECTRICAL SERVICES</b>		SF	M2	Gross Floor area	093
			Systems not described in System D5030				
<b>E</b>		<b>EQUIPMENT &amp; FURNISHINGS</b>		SF	M2	Gross Floor area	
			The types of equipment included in this assembly consist of the following: commercial, institutional, and vehicular The types of furnishings found here include artwork, window treatments, seating, furniture, rugs etc				
		<b>E10 EQUIPMENT</b>		SF	M2	Gross Floor area	11
			This system refers to equipment not found in System C1030 (Fittings)				
		<b>E1010 COMMERCIAL EQUIPMENT</b>		SF	M2	Floor area	1120
			This equipment is not likely to be used in every building type Subsystem C1030 includes those items likely to be found in every building type				
		<b>E1020 INSTITUTIONAL EQUIPMENT</b>		SF	M2	Floor area	
			Institutional equipment includes items that are normally found in hospitals, laboratories, auditoriums, and libraries				
		<b>E1030 VEHICULAR EQUIPMENT</b>		EA	EA	Pieces of equipment	
			Vehicular equipment includes for parking, loading docks, and warehouses				
		<b>E1090 OTHER EQUIPMENT</b>					
			The type of equipment found in his category include items for maintenance, food service, and waste handling				
		<b>E20 FURNISHINGS</b>		SF	M2	Floor area	112
			The types of furnishings found here include artwork, window treatments, seating, furniture, rugs, etc				
		<b>E2010 FIXED FURNISHINGS</b>		SF	M2	Floor area	112
			The types of furnishings found here include artwork, window treatments, and seating				
		<b>E2020 MOVEABLE FURNISHINGS</b>					
			The types of furnishings found here include moveable artwork, furniture, rugs, etc				
<b>F</b>		<b>SPECIAL CONSTRUCTION &amp; DEMOLITION</b>		SF	M2	Floor area	
			Special construction includes air-supported structures; pre-engineered structures; special purpose rooms; sound, vibration, and seismic construction; radiation protection; special security systems; aquatic facilities; ice rinks, site constructed incinerators; kennels and animal shelters; liquid and gas storage tanks; recording instrumentation; and building automation systems Selective building demolition includes demolition of existing buildings, and site demolition				
		<b>F10 SPECIAL CONSTRUCTION</b>		SF	M2	Floor area	113
			Special construction includes air-supported structures; pre-engineered structures; special purpose rooms; sound, vibration, and seismic construction; radiation protection; special security systems; aquatic facilities; ice rinks, site constructed incinerators; kennels and animal shelters; liquid and gas storage tanks; recording instrumentation; and building automation systems				
		<b>F1010 SPECIAL STRUCTURES</b>		SF	M2	Floor area	
			Special structures includes air-supported structures, and pre-engineered structures				
		<b>F1020 INTEGRATED CONSTRUCTION</b>		SF	M2	Floor area	
			Integrated construction includes integrated assemblies and special purpose rooms				
		<b>F1030 SPECIAL CONSTRUCTION SYSTEMS</b>		SF	M2	Area of room	
			Special construction systems includes sound, vibration, and seismic construction; radiation protection; special security systems; and built-in place vaults				
		<b>F1040 SPECIAL FACILITIES</b>		SF	M2	Area of room	
			Special facilities includes aquatic facilities; ice rinks, site constructed incinerators; kennels and animal shelters; and liquid and gas storage tanks				

			<b>F1050 SPECIAL CONTROLS AND INSTRUMENTATION</b>	XX	XX		
			Special controls and instrumentation includes recording instrumentation and building automation systems				
	<b>F20</b>	<b>SELECTIVE BUILDING DEMOLITION</b>		LS	LS		
		Selective building demolition includes demolition of existing buildings, site demolition, and hazardous components abatement					
			<b>F2010 BUILDING ELEMENTS DEMOLITION</b>	LS	LS		
		Selective building demolition includes demolition of existing buildings, and site demolition					
			<b>F2020 HAZARDOUS COMPONENTS ABATEMENT</b>	LS	LS		
		Hazardous components abatement includes the removal or encapsulation of hazardous building materials and components					
<b>G</b>	<b>SITEWORK</b>			ACR	Hectare	Total area of site	
	Sitework includes Building-Related Sitework and Non-Building-Related Sitework. Building-Related Sitework and Non-Building-Related Sitework both include site preparations, site improvements, site civil/mechanical utilities, site electrical utilities.						
	<b>G10</b>	<b>BUILDING-RELATED SITEWORK</b>					
		Building-Related Sitework includes site preparations, site improvements, site civil/mechanical utilities, site electrical utilities required for and specific to building construction.					
			<b>G1010 SITE PREPARATIONS</b>	ACR	Hectare	Total area of site	121
		This system includes assemblies for miscellaneous sitework such as clearing and grubbing, demolition and relocation, various earthwork tasks, and other site preparation and cleanup requirements.					
			<b>G1020 SITE IMPROVEMENTS</b>	LS	LS		122
		This includes improvements such as parking lots, sidewalks, roadways, fencing, retaining walls, and landscaping.					
			<b>G1030 SITE CIVIL/MECHANICAL UTILITIES</b>	EA	EA	Each utility	123
		Site mechanical utilities includes water supply, sanitary sewer, storm sewer, heating distribution, cooling distribution, fuel distribution, and other site mechanical utilities, such as industrial waste systems.					
			<b>G1040 SITE ELECTRICAL UTILITIES</b>	EA	EA	Systems total	1235
		This system includes exterior electrical systems and equipment including substations, overhead and underground distribution systems, metering systems and equipment, exterior lighting, lightning protection systems, communication and alarm systems, and cathodic protection.					
	<b>G20</b>	<b>NON-BUILDING-RELATED SITEWORK</b>					
		Non-Building-Related Sitework includes site preparations, site improvements, site civil/mechanical utilities, site electrical utilities required for and specific to other than building construction.					
			<b>G2010 SITE PREPARATIONS</b>	ACR	Hectare	Total area of site	121
		This system includes assemblies for miscellaneous sitework such as clearing and grubbing, demolition and relocation, various earthwork tasks, and other site preparation and cleanup requirements.					
			<b>G2020 SITE IMPROVEMENTS</b>	LS	LS		122
		This includes improvements such as parking lots, sidewalks, roadways, fencing, retaining walls, and landscaping.					
			<b>G2030 SITE CIVIL/MECHANICAL UTILITIES</b>	EA	EA	Each utility	123
		Site mechanical utilities includes water supply, sanitary sewer, storm sewer, heating distribution, cooling distribution, fuel distribution, and other site mechanical utilities, such as industrial waste systems.					
			<b>G2040 SITE ELECTRICAL UTILITIES</b>	EA	EA	Systems total	1235
		This system includes exterior electrical systems and equipment including substations, overhead and underground distribution systems, metering systems and equipment, exterior lighting, lightning protection systems, communication and alarm systems, and cathodic protection.					
	<b>G30</b>	<b>OTHER SITE CONSTRUCTION</b>		LS	LS		123
		Other site construction includes service and pedestrian tunnels, bridges, railroad spurs, and snow melting systems.					
			<b>G3010 SERVICE AND PEDESTRIAN TUNNELS</b>		XX		1236
		This assembly includes service and pedestrian tunnels.					
			<b>G3020 OTHER SITE CONSTRUCTION</b>	XX	XX		123
		Other site construction includes bridges, railroad spurs and snow melting systems.					
<b>Z</b>	<b>INDIRECT COSTS</b>						10
	<b>Z10</b>	<b>DESIGN CONTINGENCY</b>					
			<b>Z1010 FEASIBILITY STUDY SUBMISSION</b>	%%%	%%%	10% * Direct Cost	
			<b>Z1020 PDS SUBMISSION</b>	%%%	%%%		
			<b>Z1030 CONCEPT PHASE SUBMISSION</b>	%%%	%%%		

[illegible]